

### **Amendments to the Specification:**

Pursuant to 37 C.F.R. § 1.121(b) kindly amend the specification as follows. Amendments to the specification are made by presenting replacement paragraphs or sections marked up to show changes made relative to the immediate prior version. The changes in any amended paragraph or section are being shown by strikethrough (for deleted matter) or underlined (for added matter).

Please replace the title on page 1, line 1 with the following title starting on page 1, line 1:

~~Phase Averaging at High Rotational Speeds~~ A REAL-TIME CONTROL SYSTEM AND METHOD OF USING SAME

Please replace the paragraph on page 7, lines 15-21 with the following paragraph starting on page 7, line 15:

United States Patent Application number 10/4015,513 entitled “Compensating for VCT Error Over Speed Range”, describes a method for compensating for variable cam timing of an internal combustion engine ~~is provided~~. The method includes: a) providing a periodical crank pulse signal (62); b) providing a periodical cam pulse signal (66); c) determining a segment, wherein the internal combustion engine speed induces a volatile change upon Zphase values (90); d) dividing the segment into sub-segments; and e) calculating Zphase values (90) of a plurality of points within the sub-segments.

Please replace the paragraph on page 11, lines 1-12, with the following paragraph starting on page 11, line 1:

Referring to Fig. 1A, a second scenario where pulse update rate is less than loop execution rate is shown. A second sequence of sensed cam pulses 30 is provided. Pulses 40 denote a sequence of pre-arranged controller loop executions. As can be seen the pulse update rate is less than that of the loop execution rate. Therefore, sometimes each loop execution can use a sensed cam pulse more than once. In other words, sensed cam pulse 32 is an updated pulse that is used twice by controller loop execution 42 as the sensed pulse wheel signals are not updated as the second control loop 43 occurs. Therefore, both control loop 42 and 43 use the